

separating acetone and phenol from a wholly or partially neutralized aralkyl hydroperoxide cleavage mass comprising salts of neutralization to produce a crude phenolic stream comprising said salts of neutralization; separating said crude phenolic stream to produce a concentrated phenolic-rich stream and a crude phenol bottoms stream, said crude phenol bottoms stream comprising said salts of neutralization and a remainder of said phenolic compounds; treating said crude phenol bottoms stream with a first quantity of aqueous material and with a second quantity of an organic diluent, said second quantity being effective to solubilize said remainder of said phenolic compounds to produce a mixture, wherein a weight ratio of said organic diluent to said crude phenolic bottoms stream is at least 0.15:1; allowing said mixture to phase separate, recovering said phenolic compounds in an organic phase comprising said organic diluent.

226. (Amended) A process for manufacturing phenolic compounds comprising:

separating acetone and phenol from a wholly or partially neutralized aralkyl hydroperoxide cleavage mass comprising salts of neutralization to produce a crude phenolic stream comprising said salts of neutralization; separating said crude phenolic stream to produce a concentrated phenolic-rich stream and a crude phenol bottoms stream, said crude phenol bottoms stream comprising said salts of neutralization and a remainder of said phenolic compounds; treating said crude phenol bottoms stream with a first quantity of aqueous material and a second quantity of an organic diluent, said second quantity being effective to solubilize said remainder of said phenolic compounds producing a mixture, wherein said organic diluent has a first density sufficiently less than a second density of phenol to attract said remainder of said phenolic compounds from said mixture into an organic phase comprising said organic diluent;

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concluded

allowing said mixture to phase separate to produce an organic phase comprising said phenolic compounds and said organic diluent.

REMARKS

Rejections Under 35 U.S.C. § 112

-Rejection of Claims 156-259 under 35 U.S.C. § 112, first and second paragraph

The examiner rejected claims 156-259 on the grounds that they omit "critical features." According to the examiner "The only method of treating the crude bottoms stream described in the specification requires adding a) water and b) a diluent composition with subsequent separation into a hydrocarbon phase and an aqueous phase." The examiner contends that claims 156-259 do not set forth these "critical features."

-Response re claims 168-259

Claims 168, 205, and 226 have been amended to clarify that the "treating" also comprises treating the "crude phenol bottoms stream with a first quantity of aqueous material." Applicant respectfully requests withdrawal of the rejection of claims 168-259 under 35 U.S.C. § 112, first and second paragraphs.

-Response re claims 156-167

Claims 156-167 are "means-plus-function" claims. Claim 156 reads as follows:

156. A process for manufacturing phenolic compounds comprising:

means for separating a neutralized aralkyl hydroperoxide cleavage mass stream comprising salts of neutralization to produce a crude phenolic stream comprising said salts of neutralization;

means for separating said crude phenolic stream to produce a concentrated phenolic-rich stream and a crude phenolic bottoms stream comprising said salts of neutralization and a remainder of said phenolic compounds;

means for separating at least a portion of said remainder of said phenolic compounds from said crude phenolic bottoms stream into an organic phase.

Emphasis added.

The examiner is required to read the foregoing "means-plus-function" limitations "to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. § 112(6). "The 'broadest reasonable interpretation' that